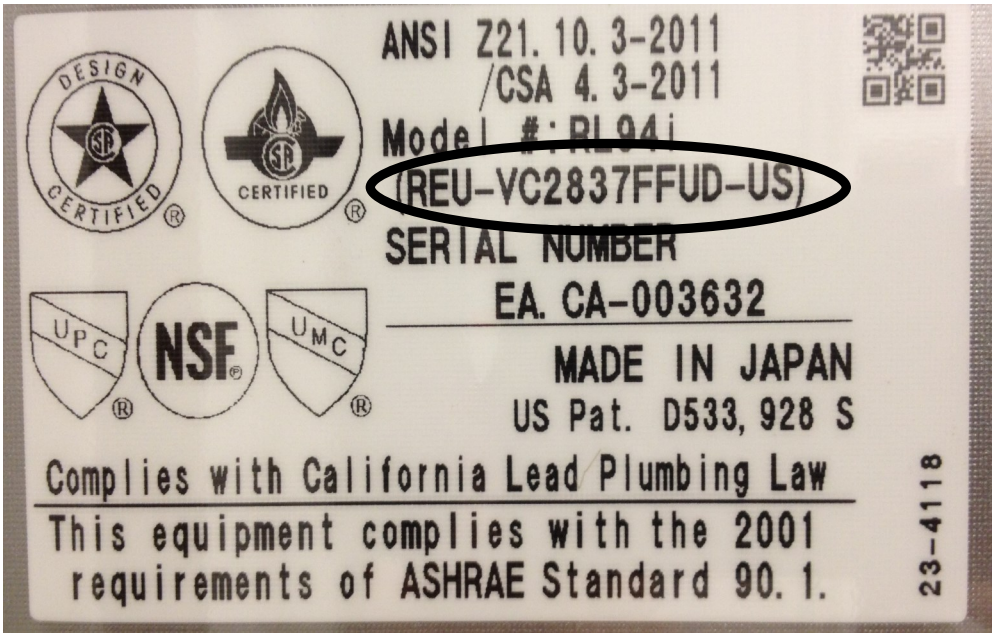
Rinnai®

Technical Bulletin 105-Removing and cleaning the flow turbine

In some instances, a tankless water heater may not heat water due to issues sensing water flow. This is due at times to debris entering the flow turbine within the Water Flow Servo Valve. This turbine must be removed, inspected, and cleaned in order for the unit to resume proper function. Prior to performing the instructions within this technical bulletin, verify what series of unit is being serviced. This is done by locating the label either on the left side of the unit or the label on the inside of the unit. These labels contain the full model number of the unit. The full model number will begin with "REU-" and the letter(s) immediately following that will be the series. The range of series include V, VA, VB, VC, KA or KB. Below is an example of a VC series unit label:



- If your unit is a **V** or **VA** series, proceed to page 2.
- If your unit is a **VB** or **KA** series, proceed to page 3.
- If your unit is a **VC** or **KB** series, proceed to page 4

⚠ WARNING

Follow the steps below prior to servicing or replacing any component within the tankless water heater in order to protect yourself from harm:

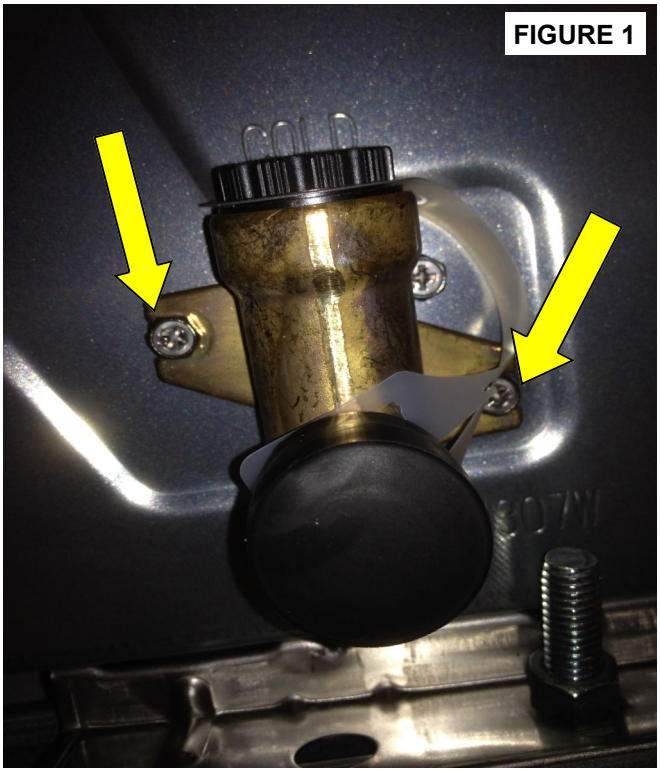
- Turn off the electrical power supply by unplugging the power cord or by turning off the electricity at the circuit breaker. (The temperature controller does not control the electrical power.)
- Turn off the gas at the manual gas valve, usually located immediately below the water heater.
- Turn off the incoming water supply. This can be done at the isolation valve immediately below the water heater or by turning off the water supply to the building.

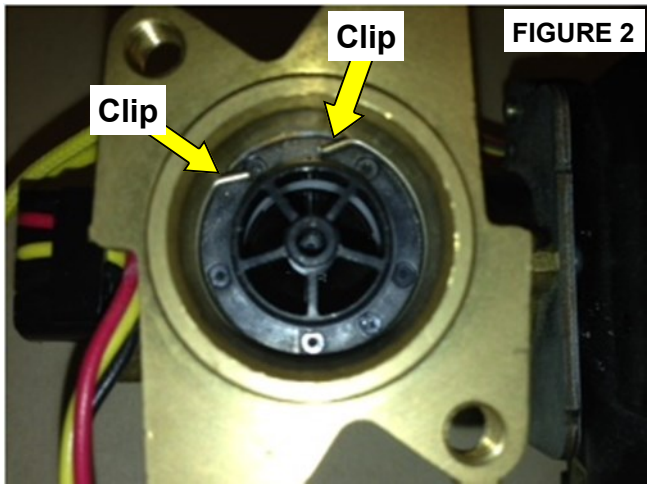
⚠ WARNING

Failure to correctly assemble the components according to these instructions may result in a water leak.

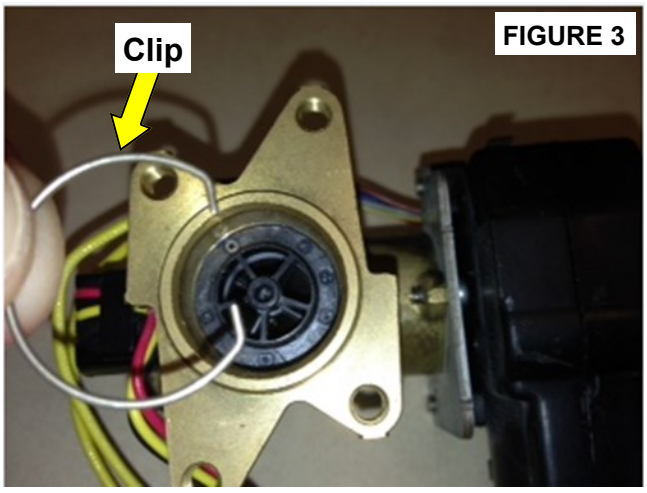
Removing and cleaning the flow turbine on a V or VA series water heater

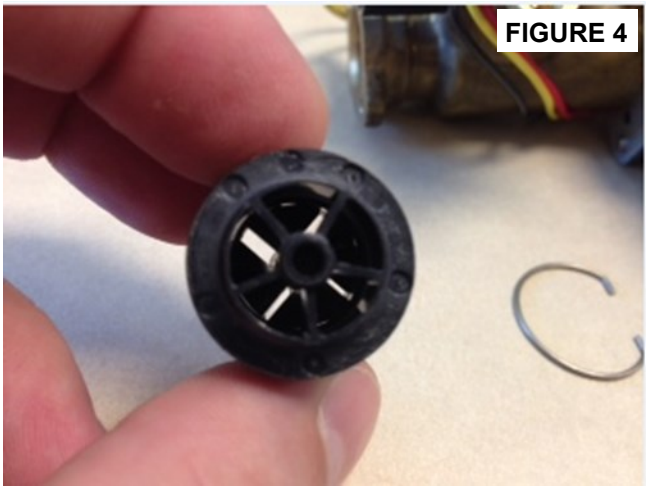
1. Remove two screws holding cold inlet brass to the underside of the unit. (brass assembly in which the filter assembly is located.) (FIGURE 10
2. Locate turbine (black plastic piece) from where the brass assembly was removed. (FIGURE 2)





3. Locate the metal clip securing the turbine. Remove metal clip. (FIGURE 2 AND FIGURE 3)
4. Pull turbine down and away from unit. (FIGURE 4)
5. Inspect and clean the turbine (blow through turbine to ensure that it spins freely after cleaning).
6. Reinstall turbine, locking clip, and brass assembly in reverse order.





Removing and cleaning the flow turbine on a VB or KA series water heater

1. Remove two screws holding cold inlet brass to the underside of the unit. (brass assembly in which the filter assembly is located.)
2. Locate turbine (black plastic piece) from where the brass assembly was removed.
3. Locate the metal clip securing the turbine. Remove metal clip (groove will allow for easier access to removing clip) **CAUTION: Clip may "spring" out during removal process. DO NOT LOSE CLIP.**

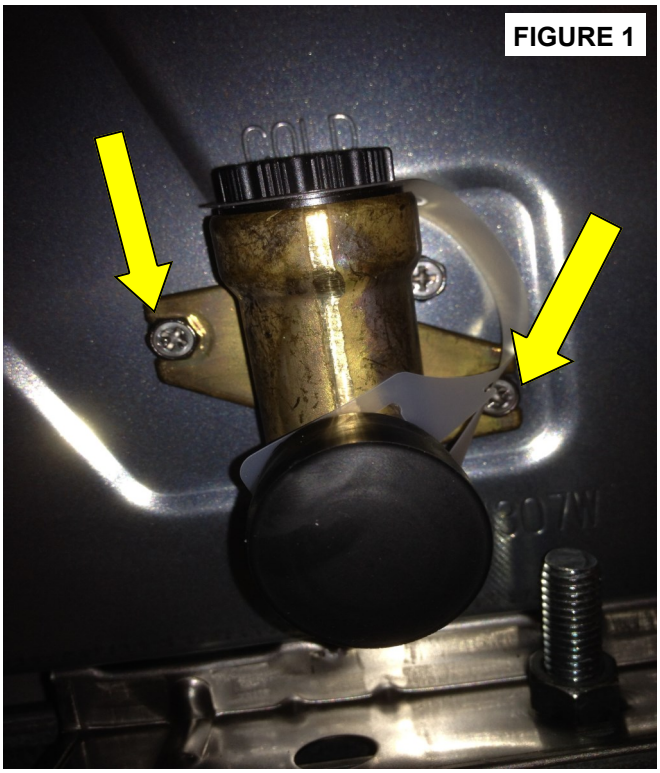


FIGURE 1

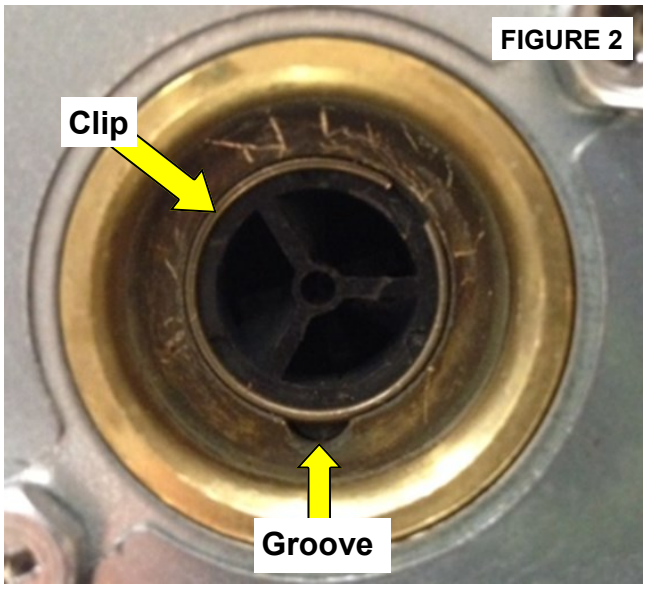


FIGURE 2

*NOTE: Clip opening will be slightly larger once removed.

4. Remove turbine from unit. (FIGURE 3)
5. Inspect and clean turbine (blow through turbine to ensure that it spins freely). Should turbine become disassembled, ensure that it is properly reassembled. Failure to do so will prevent the turbine from spinning freely causing the unit not to function. Take special note of the orientation of the circled component. (FIGURE 4)
6. Reinstall turbine, locking clip, and brass assembly in reverse order.

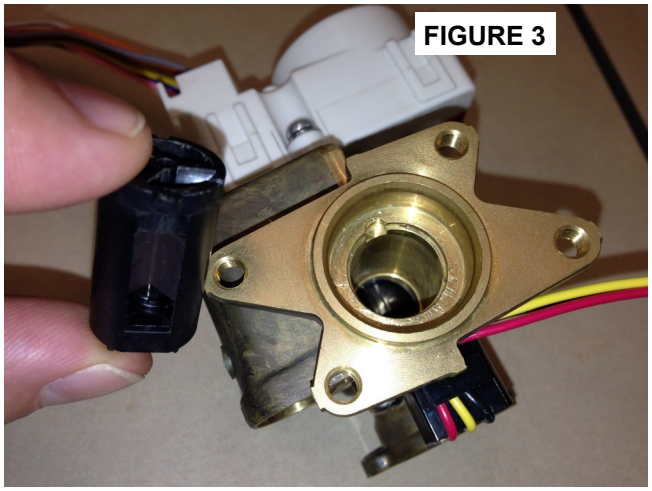


FIGURE 3

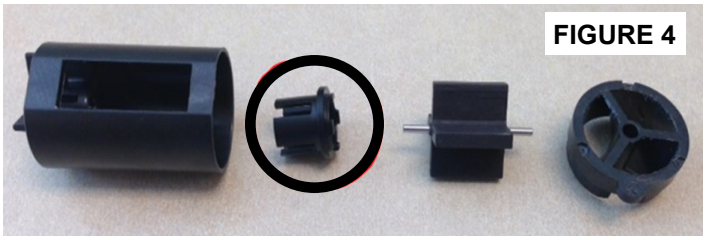
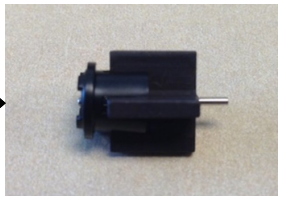


FIGURE 4

*NOTE: Example of improper reassembly



Removing and cleaning the flow turbine on a VC or KB series water heater

1. Remove two screws holding cold inlet brass to the underside of the unit. (brass assembly in which the filter assembly is located.) (FIGURE 1)
2. Locate turbine (black plastic piece) from where the brass assembly was removed . (FIGURE 2)

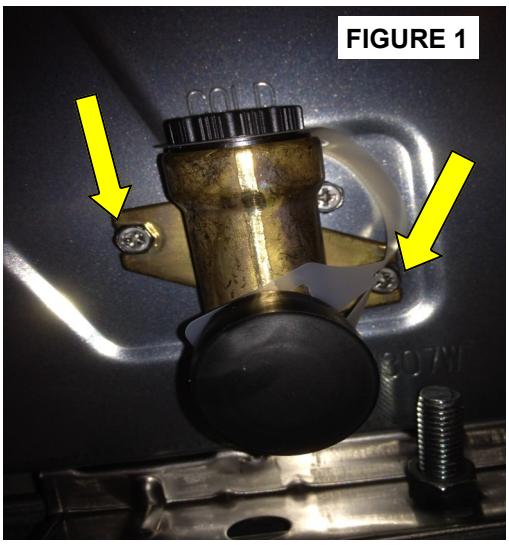


FIGURE 1

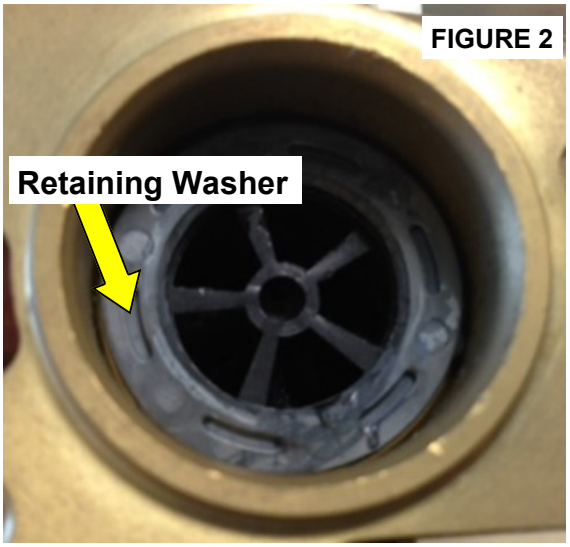


FIGURE 2

3. Locate the plastic retaining washer securing the turbine. Removing plastic retaining washer. (FIGURE 3)
4. Remove turbine. (FIGURE 4)
5. Inspect and clean turbine (blow through turbine to ensure that it spins freely). (should turbine become disassembled, ensure that it is properly reassembled. Failure to do so will prevent the turbine from spinning freely causing the unit no to function. Take special note of the orientation of the white component. (FIGURE 5))
6. Reinstall turbine, plastic retaining washer, and brass assembly in reverse order.

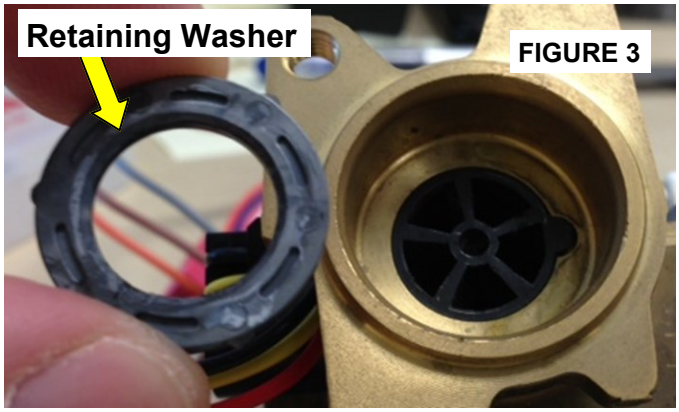


FIGURE 3


FIGURE 4

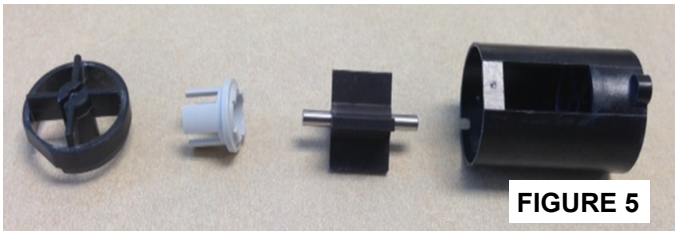
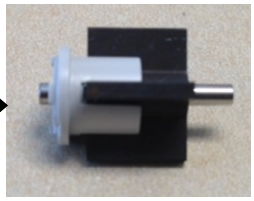


FIGURE 5

*NOTE: Example of improper reassembly



Rinnai America Corporation • 103 International Drive, Peachtree City, GA 30269
Toll-Free: 1-800-621-9419 • Phone: 678-829-1700 • www.rinnai.us